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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,301	08/14/2001	Richard Scheps	79898	8562

7590 11/19/2003

COMMANDING OFFICER  
OFFICE OF PATENT COUNSEL CODE D0012  
SPAWARSSYSCEN SAN DIEGO  
53510 SILVERGATE AVENUE ROOM 103  
SAN DIEGO, CA 92152-5765

EXAMINER

NGUYEN, TUAN M

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/929,301

Applicant(s)

SCHEPS, RICHARD

Examiner

Tuan M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
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TECHNOLOGY CENTER 2800

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-21, 35, 47 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulton ('190) in view of McFarlane ('890).

With respect to claims 1, 13, 21, 35, 47 and 55, Moulton discloses three color coherent light system comprising a laser (10) produces an output beam (12), beam splitters (17, 19, 25 and 29), which generating the green light at 523.5 nm, a blue light at 455nm and a red light at 618nm. However Moulton does not discloses upconversion laser, note col. 2 line 38 to col. 4 line 67, see fig 1. Whereas McFarlane shows in figure 1 the upconversion (20). For the advantageous of three color coherent light system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Moulton with the upconversion laser as taught or suggested by McFarlane.

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With respect to claims 2 and 14, Moulton discloses laser source may include a solid state laser, note col. 3.

With respect to claims 3 and 15, McFarlane discloses upconversion laser (20) comprises a laser gain element, see fig 1.

With respect to claims 4, 6 and 17-20, McFarlane disclose the input coupler is reflective coating (40) on an end face of the laser gain element, see fig. 1.

With respect to claims 5 and 16, Moulton discloses the laser gain element is a Pr: YALO crystal, note col. 6.

With respect to claims 7-12, Moulton discloses the beam splitters for directing the blue, green and red light beam in parallel and the single beam (12) is combined of red, green and blue light, see fig. 1.

4. Claims 22-34, 36-46, 48-54 and 56-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulton ('190) in view of McFarlane ('890) further in view of Halldorsson et al ('489).

With respect to claims 22-23, Moulton and McFarlane disclose all limitations as set forth in claims 1 and 21 except for red/green/blue lights are combined into a single collinear beam and single collinear beam is substantially white. Whereas Halldorsson et al disclose red/green/blue lights are combined into a single collinear beam and single collinear beam is substantially white, note col. 3. For the advantageous of three color coherent light system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide

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Moulton and McFarlane with the for red/green/ blue lights are combined into a single collinear beam as taught or suggested by Halldorsson et al.

With respect to claims 24, 36 and 48, Moulton discloses laser source may include a solid state laser, note col. 3.

With respect to claims 25-26, 37-38 and 49, McFarlane disclose the upconversion laser (20) comprising a laser gain element and the input coupler comprises either a plane mirror or a reflective coating (40) on an end face of the laser gain element, see fig 1.

With respect to claims 27-34, 39-46 and 50-54, Moulton discloses the laser gain element is a Pr:YALO crystal, and the single beam of combined light is substantially white, note col. 2 line 38 to col. 6 line 64.

With respect to claims 56-57, Halldorsson et al disclose the blue, red, green light are combined into a single collinear beam, note col. 3.

With respect to claims 58-68, Moulton discloses at least one of the means for generating is a solid state laser, the laser gain element is a Pr:YALO, the red light, blue light and green light are combined into a single light, note col. 2 line 38 to col. 9 line 10, see fig. 1.

### **Response to Amendment**

5. Applicant's arguments with respect to claims 1-68 have been considered but are moot in view of the new ground(s) of rejection.

### **Citation Of The Pertinent References**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The patent to Grubb (US patent 5,226,049) discloses an optical fiber rare earth ion upconversion laser system.

The patent to Oomen (US patent 5,067,134) discloses device for generating blue laser.

The patent to Nguyen et al (US patent 4949348) discloses blue green upconversion laser.

***Communication Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan M Nguyen whose telephone number is (703) 306-0247.

The examiner can normally be reached on 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Paul Ip  
SPE  
Art unit 2828

TMN  
November 13, 2003